MEDIN Discovery Metadata Standard v2.3.8 to v3.0 Change Log

Author: Sean Gaffney, MEDIN

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Background

Throughout the period mid-2016 to spring 2019, the UK geospatial discovery metadata standard GEMINI2.2 has been reviewed and updated, and changes implemented to create a new version of GEMINI versioned as 2.3. This change log reports the edits made by Sean Gaffney to the MEDIN Discovery Metadata Standard v2.3.8 to update it to account for GEMINI 2.3, and also to account for change requests made by the MEDIN Standards Working Group (SWG) throughout 2015 – 2019.

The change log is split into sections as follows:

- Formatting changes to make referencing the document easier
- Changes that have been applied en masse throughout the document
- Changes that have been applied to individual elements to comply with GEMINI 2.3 or requests from the MEDIN SWG.

Formatting Changes

- Page numbers have been applied to the document. This was missing in 2.3.8 and made referencing difficult.
- The table on p8 and top p9 with the Element numbers, names and requirement levels for datasets and services has been inserted to make it easier to assess which elements and requirements are needed for the different profile use cases. The elements names are also hyperlinked to the individual elements throughout the document to make referencing easier.
- Section 4 on p9/10 has been adjusted in a number of areas:
  - c) and d) have been separated into two separate points. This was to make clear that there is a difference throughout the text between the statement of the requirement level (section c) and the detailing of how the requirement level is applied (section d). Some of the existing text in 2.3.8 has been deleted/re-drafted and placed in section c or d as appropriate.

- c) Requirement level has been edited to clarify requirement levels, especially in relation to improving the explanation of the circumstances under which a Conditional requirement applies. New text has been added to indicate conditionality may depend on whether a requirement is for a dataset/series or service profile.
- d) Has been written to make clear that the detail of a requirement level is to clarify its use for each/all of the different metadata profiles.
- h) In version 2.3.8, this was not structured properly and looked incomplete. In version 3.0, this has been re-worded to become a comprehensible piece of text.
- i) All references to XML have been capitalised in the document for consistent formatting. Additionally, text has been added to clarify to users that XML examples may apply to both or either of dataset/series or service metadata instances.
- i) A note has been added before the XML example to make users aware that encoding guidance is available from GEMINI 2.3 (and a hyperlink to GEMINI 2.3 is present).

Changes applied throughout the document

- All references to GEMINI 2 or GEMINI2 have been standardised so that there is a space between GEMINI and the number 2 e.g. GEMINI 2 and not GEMINI2.
- The element naming structure for elements, sub-elements and sub sub elements has been edited so that it is consistent in its ordering – this is:
  - Element number
  - Element Name
  - Requirement level initial in brackets
  - Requirement level in text on next line. This can be different for dataset/series or services. All mentions of the word 'element' or 'sub element' or 'sub sub element' in terms of requirement have been removed e.g. 'Mandatory element' now is just 'Mandatory'.
  - Requirement level detail follows, with a more detailed instruction on how the requirement level applies for the various metadata instances.
  - Occurrence of the element
  - Field type
- Certain elements have had their requirement level changed from Mandatory to Conditional to reflect different requirements for dataset/series or service metadata uses of that element.
- For occurrences, the text has been standardised where possible so that single occurrence requirements are defined as 'Only one occurrence allowed' and multiple requirements are defined as 'Multiple occurrences allowed'.
- Typos have been altered so that 'occurence' has been replaced where necessary throughout the document by 'occurrence'.
- Examples have been re-formatted so that Example is in bold, and then on the next line the example is given. If there are multiple examples, Example is followed by a numeric for the example number (all in bold) and then the next line contains the example. This style is then repeated with the numeric incrementing by one e.g.

Example 1

1992 Centre for Environment, Fisheries and Aquaculture Science (Cefas) North Sea 2m beam trawl survey.

Example 2

1980-2000 Marine Life Information Network UK (MarLIN) Sealife Survey records.

- Example XML fragments now have in brackets the metadata instances that they relate to e.g. Example XML fragment (for datasets and series of datasets)
- Additional example XML for services has been added to as many of the elements as possible.
- Throughout the text, mention of the word 'dataset' has been replaced by 'resource' to make elements more generic.
- For Mandatory requirement elements, the words 'should' and 'must' have been replaced with 'shall' when describing the implementation of the requirement to make the implementation more rigorous.
- All hyperlinks to SeaDataNet vocabularies have been changed to BODC vocabulary hyperlinks as this has been recommended by BODC for maintenance reasons.
- Names of vocabularies have been changed where necessary to precisely match the relevant terms in the NVS vocabulary
- All instances of XML examples which refer to ISO codelists have the text snippet 'Codelist' replaced by 'codelist' in accordance with INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119 v 1.3 changes from V1.2
- Where applicable, reference to GEMINI 2.2 has been replaced by reference to GEMINI 2.3.
- Links to MEDIN website which refer to www.oceannet.org have been replaced by the equivalent link to the new MEDIN website www.meding.org.uk

Changes applied by Section / Element in the document

Section or Element number and name	List of changes plus justification
1. Introduction	o References to 'dataset' or 'datasets' changed to 'resource'/'resources' to ensure that it is clear that standard applies to difference resource types. o Minor adjustment in text to reflect that standard complies with ISO 19115:2003. o Altered URLS to GEMINI and INSPIRE so they reflect GEMINI 2.3 and March 2017 updated version of INSPIRE Metadata Implementing Rules
Element 1 – Resource title	o Clarified that MEDIN format of date, location, type of survey is recommended for datasets and series only – this done as service metadata titles may be more complicated than this formula can represent. o For GEMINI 2.3: Added third paragraph - about acronyms being reproduced in full in Resource Abstract or Alternative Resource Title if they couldn't be reproduced in full in the Title. o Added fourth paragraph – guidance on the title for services, that it should be the formal or product name of the service if it exists.

| Element 2 – Alternative resource title | o Expanded first paragraph to make it clearer that alternative title is to record other names by which the resource may be known. |
	o For GEMINI 2.3: Added line to main paragraph explaining how acronyms should be expanded in full if not already done in Title element
Element 3 – Resource abstract	o Change element number about Lineage element in paragraph 1 as it was incorrect
	o For GEMINI 2.3: Added in text requiring abstract to be a minimum of 100 characters in length and changed Example 3 to reflect this requirement as the previous version was less than 100 characters long. Put in clarification that restrictions relating to spatial resolution for service metadata must be expressed in the Abstract, not in Element 18 Spatial Resolution
Element 31 – Hierarchy level name	o New element in GEMINI 2.3. Added to MEDIN standard for compliance.
	o All text sourced from https://www.agi.org.uk/gemini/40-gemini/1062-gemini-datasets-and-data-series#47
Element 5 – Resource locator	o Adjusted conditionality slightly to make it compliant with GEMINI 2.3.
	o In sub element 5.1, put in text 'of the dataset, series or service' after mention of URL so it is clear that Resource Locator applies to all types of metadata profile
	o For GEMINI 2.3: Added line to end of first paragraph which provides guidance on how Resource locator should be used when referencing to a Digital Object Identifier (DOI).
	o Added clarification to sub Element 5.3 stating that code for a DOI should be 'information'
	o Added new sub-element 5.4 locator description to comply with GEMINI 2.3. Obligation set as conditional to reflect GEMINI 2.3 requirements for both dataset and series metadata and metadata for services.
	o Added in Example 2 showing how DOI could be used as a resource locator
Element 6 – Unique resource identifier	o Changed contact e-mail from enquiries@oceannet.org to medin.metadata@mba.ac.uk as this is helpdesk email so it is more appropriate.
	o For GEMINI 2.3: Added in text to indicate how Code and Code Space should be populated when dealing with Digital Object Identifiers (DOIs).
	o For GEMINI 2.3: In sub-element 6.2, added in text explaining how Code Space should be used to ensure INSPIRE compliance.
Element 7 – Coupled resource	o Added in field type of 'Free text'.
	o Changed example so it refers to a Web Accessible Feature dataset, which is a clearer example of how Coupled resource works.
	o For GEMINI 2.3:

		Added in that GEMINI 2.3 mandates this be populated for View and Download services or if other linkages to the datasets that the service operates on are available.
Element 8 – Resource language	o	Added in text 'Not applicable to services' after requirement level detail about described resource containing textual information.
	o	Deleted line which stated that element is not required if a service is described. This made element text neater and consistent with other elements.
	o	Changed hyperlink to ISO 639-2 so it went directly to code list page rather than to landing page for ISO 639.
	o	Added in guidance note that matches GEMINI recommendation on choosing 'cym' instead of 'wel' if Welsh is the main metadata language.
Element 9 – Topic category	o	Moved 'This element is not required if a service is being described' before occurrences in element description section as this text is requirement level detail.
	o	Moved line 'This indicates the main theme(s) of the data resource' to start of paragraph 2 as it reads better here.
Element 10 – Spatial data service type	o	Added in requirement detail to make clear this element does not apply to service metadata.
	o	Added field type information referencing INSPIRE Service type controlled vocabulary.
Element 32 – Spatial representation type	o	New element for datasets and series in GEMINI 2.3. Added to MEDIN standard for compliance.
	o	All text sourced from https://www.agi.org.uk/gemini/40-gemini/1062-gemini-datasets-and-data-series#50
Element 11 - Keywords	o	Added in new first paragraph to provide clarity to users as to the purpose of this element.
	o	Re-drafted what was paragraph 1 of Keywords element in 2.3.8, so that it was clearly separated into how keywords should be chosen, what to do with service metadata and how the entry shall be populated.
	o	Added requirement level of (M) to INSPIRE keywords as this had not been specified and the text makes clear this is a mandatory requirement.
	o	Moved text about INSPIRE requirement to top of INSPIRE keywords paragraph and re-worded slightly to make it a clearer requirement that is asked for by MEDIN.
	o	Added requirement level of (C) to MEDIN keywords as this had not previously had a specified requirement level.
	o	Added requirement level detail text to state that P02 keyword must be chosen unless there are none suitable. This was agreed through e-mail correspondence between MEDIN Standards Working Group members in mid-July 2017.
	o	Added 'hierarchically' as clarifying text about using the P08 SeaDataNet interface.
	o	Added requirement level of (C) to Vertical Extent Keywords as no requirement level had been previously specified.
	o	Added in explanation for conditionality – only populate if Element 14 cannot be completed. This clarifies text that is in Element 14 but is not sufficiently explicit.

	o Added 'library' text in front of L13 to make it consistent with referencing of other vocabularies.
	o Moved section about Making metadata available to MEDIN portal below Keywords for Services – this done as making metadata for services available is guidance, not a keyword sub-element that has a requirement level and thus it fits into the element text more appropriately below all keyword sub-elements with requirement levels.
	o Added requirement level of (O) to 'Other Keywords' as these can be added at user discretion.
	o Added guidance to 'Other Keywords' to ensure users do not duplicate information that will be populated in other parts of the profile.
	o Added requirement level of (C) to Keywords for services.
	o Re-worded text in line 1 of Keywords for services. Added conditionality about if services are described, and then requirement of how services shall be described.
	o Updated location of implementing rules as hyperlink in 2.3.8 was out of date.
	o In sub element 11.1, added 'controlled vocabulary' before thesaurus to improve clarity of what is being referred to.
	o In 11.2.2, placed footnote in document to make clear what 'Creation', 'Revision' and 'Publication' mean.
	o In sub-element 11.2.3, clarified date format to be yyyy-mm-dd as this was not specified previously
	o In sub-element 11.2.3, clarified that date is linked to date type mentioned in 11.2.2.
	o Example 1 – changed thesaurusName form BODC Parameter Discovery Vocabulary to SeaDataNet Parameter Discovery Vocabulary as this is correct name for the thesaurus
	o Added in example XML fragment for services, referencing vocabulary P02
	o Added in example XML fragment for services, referencing part D4 of INSPIRE Metadata Implementing rules
Element 12 – Geographic Bounding Box	o Clarified requirement level detail, included series and conditionality for services on their being a defined extent.
	o Re-worded paragraph 1 and separated into two paragraphs to clarify the purpose of the element and how it should be filled out. Added in text to make it clear that two decimal places required for each coordinate. Separated into second paragraph information about the conditions in which multiple bounding boxes are to be used.
	o For GEMINI 2.3: Added line about latitude and longitude in WGS84
	o Changed occurrence text in sub elements 12.1 – 12. 4 so that it isn't 'multiple', rather 'One occurrence allowed per bounding box' as this is geometrically more accurate.
	o Changed 'data' to 'data resource' in description of all sub-elements to account for service metadata.
	o In example XML fragment for services, removed line about extent element being in /srv namespace. In 2.3.8, this is only

	service profile example so use of srv namespace needed to be highlighted. In 2.3.9, XML fragments for services occur for (almost) all elements and these are all in srv namespace so this text is not required.
Element 13 - Extent	o Moved field type to after occurrences in element description order. o In paragraph 2, changed hyperlink geo.ices.dk to vocab.ices.dk as other link no longer resolved. o In sub-element 13.1, text provides more detailed guidance on population as a result of extended discussions in Standard Working Group meetings throughout 2016 and 2017. o Sub sub element 13.2.1. has been given a requirement level (M) o Sub sub element 13.2.2. has been given a requirement level (M) o Sub sub element 13.2.2 has had a footnote added, providing an explanation of what the date types are o Sub sub element 13.2.3 has been given a requirement level (M) and requirement level detail of Mandatory as this was missing from 2.3.8. o Sub element 13.2.3 has been given more clarification of occurrence to make it clear that it is a single occurrence per date type. It has also had the field type added to it. o Typo referencing sub element 13.2.2 Date type fixed in description of sub element 13.2.3.
Element 14 – Vertical extent information	o Changed requirement level from optional to conditional as description now states that this element shall be populated if the CRS is known. o Underlined paragraph about choosing either element 11 or element 14 to emphasise that one of the elements is required. o Added in paragraph in description clarifying use case for vertical extent information when building service metadata instances. This is from GEMINI. o In sub element 14.3, changed mention of 'IOGP Online Registry' to 'EPSG Geodetic Parameter Registry'
Element 15 – Spatial reference system	o Added in acronym for coordinate reference system (CRS) into first paragraph of description to enable easier referencing later in the document o Replaced 'IOGP' with EPSG in the second paragraph to make it clearer how to access the registry. o Added guidance on how spatial referencing should be used for dataset and series metadata and how it should be used for service metadata. This guidance supplied from MEDIN Standards Working Group discussions. o For GEMINI 2.3: Added in two sub-elements 15.1 Code (M) and 15.2 Originating controlled vocabulary (O). These are defined as the two elements in the spatial reference system class in GEMINI 2.3. Text comes from GEMINI 2.3. o For sub-element 15.1, added text to make clear that URN of EPSG code is the piece of information that is required. o Examples have been adjusted to account for the GEMINI 2.3 sub-elements.

Element 16 – Temporal reference	o Made Field type more precise throughout element – where relevant, added in that it uses a controlled vocabulary (publication, revision, creation) and expanded the allowable date/time format to include the BSI 8601 yyyy-mm-ddThh:mm:ss for time as well as date o Re-drafted description to make it more explicit what parts of temporal reference are mandatory and what are conditional. o In certain sub sub elements, added in element requirement, occurrences and field type as these were all missing in 2.3.8 o In sub sub element 16.1.1, added in description line after 'Start of temporal extent' showing how to choose from date/time options. This is a copy of text which existed already in 16.1.2 so improves consistency. o In sub sub element 16.1.2, added in element requirement, occurrences and field type as these were all missing in 2.3.8 o For GEMINI 2.3: In sub sub element 16.1.2, added in clarification that 'End' may be left blank to indicate uncertainty. o In sub element 16.2, improved guidance in description to make it clear under what conditions the date of publication shall be populated. o In sub sub elements 16.2.1, 16.3.1 and 16.4.1, changed description to remove reference to temporal extent as this is covered in element 16.1. Added guidance on choosing publication, revision or creation from list as appropriate. o For elements 16.2.2, 16.3.2 and 16.4.2, tidied up requirement level detail, occurrences, field type and descriptions so they were consistent and relevant to the date types in 16.2.1, 16.3.1 and 16.4.1. o In XML examples section, moved example coding about ongoing resource to after temporal extent XML fragment, but before XML fragments for publication temporal reference. This keeps all temporal extent examples together.
Element 17 - Lineage	o Added in new first paragraph, using text from GEMINI 2.3, to make clear what the purpose of the Lineage element is. o In paragraph 2, changed instances of 'can' to 'should' to make to more clear that particular pieces of information need to be provided if possible. o Added footnote providing definition of a service and removed existing reference to 'See Element 4 Resource type for definition of a service' as this is neater and consistent with other referencing in the Standard. o Moved line of text about Additional information source to bottom of description to make it stand out more and changed name to Additional information to reflect element name change in GEMINI 2.3. o Added in text into description providing GEMINI 2.3. guidance on how acronyms should be handled in the Lineage element o Added paragraph that gives MEDIN guidance on how lineage should be populated for service metadata.

	- Changed text in Example three so it refers to 'guidelines' not 'standards'. This comes out of MEDIN Standards Working Group discussions to minimise use of the term 'standards' when referring to MEDIN Data Guidelines. - Added in Example 5, which is a Lineage example showing detailed quality control information.
Element 18 – Spatial resolution	- Removed text in description referring to the spatial limitations of the service as this is now to be covered in the Abstract. - Reduced text in opening paragraph, removing section about using either resolution distance or equivalent scale as the information about which sub-element to choose is replicated within 18.1 and 18.2. - Added paragraph providing further guidance on expressing the spatial resolution of a service. - In sub-element 18.1, removed line about 'Either a ground sample distance OR an equivalent scale should be provided' as that text is not appropriate within this sub-element. - In sub-element 18.1, changed 'recommends' to 'requires that you shall' to emphasise mandating of use of metres as unit for distance. - For GEMINI 2.3: In sub element 18.2, re-drafted description so it is clear that equivalent scale should only be used when data is captured from a map and if distance cannot be determined.
Element 19 – Additional information	- Name of element changed from 'Additional information source' as GEMINI 2.3 have slightly altered purpose of element - Element now includes clarification that content shall not include information about access to resource or information on fees (from GEMINI 2.3) - Added in 'Example 2' text above URL to CEFAS PDF so it was clear it was a separate example from the Scottish Natural Heritage report reference.
Element 20 – Limitations on public access	- Re-drafted this element extensively. Introduced two sub-elements 20.1 and 20.2 to reflect separate encoding of Access Constraints and Other Constraints. As a result of this, existing description was broken up and text applied either as a general description paragraph at the start, or applied as sub-element specific descriptions. - Ensured that 'otherRestrictions' limitation on Access Constraints was explicitly documented. - Updated examples to show how the sub-elements relate to the access constraints. - Clarified in opening paragraph that this element is concerned with access to the data, not how the data are used.
Element 21 – Conditions applying for access and use	- Removed XML example using MD_Constraints. This is because GEMINI 2.3 and the new INSPIRE TG mandate Use Constraints to be encoded using MD_LegalConstraints only. - Added paragraph from GEMINI 2.3 which states the preference for supply of Licence Titles and URLs, if available. - Added in example XML snippet for service metadata

Element 22 – Responsible party	o Following MEDIN Standards Working Group request, added 'Owner' as a mandatory responsible party category to this element.
	o Throughout element, changed all instances of word 'must' to 'shall' as this is more prescriptive.
	o In general element description, removed 'dataset or' so that text just refers to 'resource'. This covers all use cases of dataset, series and services.
	o Re-worded the way the different responsible parties are mandated to be populated so it is a clearer, simpler list.
	o Added acronym for Data Archive Centre as DAC to make future referencing in document easier.
	o In sub element 22.2, edited 'data resource' to 'resource', enabling description to cover service metadata.
	o In sub element 22.2, edited 'the dataset' to 'a dataset'.
	o In sub sub element 22.0.1, added in GEMINI guidance about not identifying individuals by name.
	o In sub sub element 22.0.3, added in guidance from GEMINI about how postal address should be supplied.
	o Dropped sub sub element 22.0.5 Fax number.
	o Re-labelled sub sub element 22.0.5 Email address to sub sub element 22.0.5.
	o In sub sub element 22.0.5 Email address, in description, added an e.g. to demonstrate what MEDIN would consider an acceptable generic email.
	o Created new sub sub element 22.0.6 which is the organisation's web address and added in requirement level, details, occurrence and description as found in GEMINI 2.2
	o Renamed sub sub element Responsible party role from 22.0.6 to 22.0.7 as a consequence of introduction of Web address sub sub element.
	o In sub sub element 22.0.7, added in description which clarifies how MEDIN mandate the field be populated.
	o Edited examples as there were inconsistencies and typos present in some of them e.g. Data point of contact example had ResponsiblePartyRole of distributor.
	o Added example for Owner role.
	o Edited XML fragments so that personal name example was removed and replaced with an organisational example for metadata point of contact.
	o In XML example for distributor, highlighted that there are two potential encoding options and MEDIN have given one example only, for distributionInfo.
Element 23 – Data Format	o For GEMINI 2.3: Requirement level for Data Format has changed from optional to mandatory in GEMINI 2.3 for datasets and series, but inapplicable for services. Therefore, to capture both conditions, have set requirement level to Conditional in MEDIN 3.0.
	o Re-drafted general description to make clear that MEDIN mandate the use of M01 except where the data resource is not downloadable.

	o	In sub-element 23.1, added in M01 as name of controlled vocabulary to make clear this is what is mandated for use.
	o	In sub-element 23.2, guidance has been improved so that 'Unknown' should only be used if no version information is available and not as a default which is implied in 2.3.8.
	o	A second example has been created in 2.3.9, showing how version can be used when information about the data format is known.
Element 24 – Frequency of update	o	Change ISO update codelist name in description as it was incorrect.
Element 25 - Conformity	o	Moved general description below the requirement level detail, occurrences and field type information in order to be consistent with element structure elsewhere in the document.
	o	Added requirement of mandatory for services – this comes from Standards Working Group meeting in July 2014.
	o	Added clarification to when the element is mandatory for datasets/series.
	o	Added clarification that conformity can be assessed with respect to multiple specifications, as per the guidance in GEMINI 2.2
	o	In sub-element 25.1, changed requirement level from Conditional to Mandatory. If populating Conformity, the specification must be cited as otherwise the element makes no sense.
	o	In sub sub element 25.1.1., added text to make clear that the title is the specification that the resource is being evaluated against.
	o	In sub sub element 25.1.2, added footnote defining date type.
	o	In sub sub element 25.1.3, clarified in description what the date is referenced against.
	o	In sub element 25.2, changed text of degree of conformity from 'The values are as follows' to be 'The values shall be one of either' as this is more prescriptive.
	o	In sub element 25.2, provided explanatory text after the 'true' and 'false' statements about Degree of conformity.
	o	In sub element 25.3, improved grammar in description paragraph and added in text stating how conformance to varying aspects of the specification and exceptions should be reported.
File Identifier	o	For GEMINI 2.3: Gave this a requirement level of M as this is now mandated by GEMINI 2.3.
Element 26 - Metadata date	o	Added qualifier to what circumstances metadata date can represent.
	o	Added text to make clear that it is acceptable that date can be in date or date/time format.
	o	Provided second example in date/time format.
Element 27 – Metadata standard name	o	Re-worded description paragraph to improve grammar.
	o	Added in more explicit mandatory instruction on what the element should be populated with.
Element 28 – Metadata standard version	o	The description paragraph has been re-drafted to make it more precise and improve clarity on how the mandatory element should be populated.

Element 29 – Metadata language	o Added in guidance note that matches GEMINI recommendation on choosing 'cym' instead of 'wel' if Welsh is the main metadata language.
Annex A	o Mapping table has been removed and replaced by a line of holding text.
Annex B	o Title of Annex has been changed to reflect that XML examples will be present for both dataset and series metadata, and metadata for services. o XML example for datasets and series has been removed as it was for v2.3.8 profile. It has been replaced by a line of holding text.